

REMARKS

This Amendment is responsive to the Official Action dated 17 April 2007.

Claim 2 is herein canceled, claims 1-7 are amended, and claims 9-16 are withdrawn.

Claims 1 and 3-8 remain pending for consideration.

The Examiner rejected claims 1-6 are under 35 USC 103 (a) as being unpatentable over Bradley (7094678).

The present invention as claimed in claims 9-16 is a method for manufacturing a film bulk acoustic wave device that results in the film bulk acoustic wave device of claims 1-6.

According to the Examiner, Bradley Figures 2 and 3 (also column 3, line 15-column 4, line 56) teaches a film bulk acoustic wave device comprising: a cavity (reflective layer) a layer of silicon dioxide #38, a lower electrode #15, a piezoelectric layer #17 and that electrode #20. Figure 3B also shows an additional protective layer #54. The Examiner contends that it would have been obvious to employ two separate films, an oxidation protective film and a thermal oxidation film, both being made of silicon dioxide. Applicant has amended the nomenclature of claim 1 to more explicitly and structurally reflect the differences between the two devices without reliance on method operations. Specifically, claim 1 now recites a lower electrode partially formed on the resonance region and the electrode region *and having a sloped distal end portion toward the resonance region of the thermal oxidation film*; a piezoelectric thin film on the lower electrode; and an upper electrode on the piezoelectric thin film. "In other words (as stated at paragraph 0105) the electrode portion of the lower electrode 20 and the resonance portion are interconnected along the slope, resulting in a seamless direct connection, and do not need a separate process for connecting the pad portion 24 to the electrode portion." This also avoids microcracks and CMP polishing. Bradley '678 fails to disclose any equivalent sloped

interconnection between the electrode portion of the lower electrode 20 and the resonance portion. Consequently, claim 1 is patentably distinguished.

Claim 2 is herein canceled.

Claim 3 is similarly amended to reflect the slope of the thermal oxidation film being toward the resonance region and is likewise distinguished.

Claims 4-6 depend alternately on claims 1 or 3 and are likewise patentably distinguished.

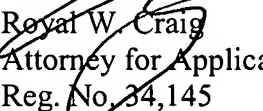
Claims 7 and 8 are rejected under 35 USC 103 (a) as being unpatentable over Japan (2002-198758 - hereinafter Japan (758)) in view of Japan (62-168,410 - hereinafter Japan (410)). However, claim 7 is herein amended to depend from claim 1 which is distinguished above and neither Japan (758) nor Japan (410) teaches the defining characteristics explained above.

Claim 8 depends on claim 7 and is likewise patentably distinguished.

* * * * *

In view of the above amendments and remarks, it is believed that this application is now in the proper condition, and a Notice of Allowance is respectfully requested.

Respectfully submitted,


Royal W. Craig
Attorney for Applicant
Reg. No. 34,145

Royal W. Craig
Ober, Kaler, Grimes & Shriver
120 East Baltimore Street
Baltimore, MD 21202-1643
Telephone: (410) 685-1120